

The Power of Full Disclosure

When looking at the results of polling data, whether they are related to work or to the next presidential election, do you wonder about their accuracy? Assessing survey accuracy depends on knowing how the data were collected.

A new survey-based television program called *Power of 10* is quickly gaining popularity among evening TV viewers. While the ratings for the game show climb, its rules for a big payday pose some interesting questions concerning the methods used for collecting survey data and the subsequent impact on the quality of that data.

For anyone who has not watched the program, its basic premise is that contestants attempt to guess how a sample of Americans respond to a wide assortment of survey topics, such as the percentage who have been fingerprinted or the percentage who have spent more than \$100 on a pair of jeans. Contestants begin at the \$1,000 level and to succeed all they have to do is predict the national result within 40 percentage points. As they continue to the ultimate prize of \$10 million, the range within which they must accurately guess the result narrows considerably.


The program so far has been a hit for CBS, but some thought provoking considerations emerge from a survey methodologist's point of view. Is the sample of Americans polled for the program truly representative of the national landscape? Is the sample random? What is the size of the sample used and how are the data collected? To date, CBS has divulged very little about the methodology employed other than to say that Rasmussen Reports, LLC collects the data that "*reaches out all across America to poll thousands of people.*" At Rasmussen's web site they offer no hints to the sampling techniques used for *Power of 10*. They do indicate, more broadly, that in their overall work they poll "representative samples." Still, a lone statement such as this hardly demonstrates sound survey methodology.

O.K., it is just a television program intended to entertain us. What's the big deal? Well, suppose a contestant going for the \$1 million prize guesses that 50% of Americans have eaten oatmeal for breakfast within the past year. At this prize level the contestant's answer must come within ten percentage points of the true measure. This means that

to win the money the correct answer can be as low as 40% but also as high as 60%. Let's say the correct answer according to the survey is 61%. In this case the contestant does not win the \$1 million because she was one point outside the allowable range. But consider this - when surveys sample only part of the total population, as is the case here, there is sampling error - *always*. The actual amount of error depends on how many people were sampled. A sample of 2,500 people - a bit large for a national survey - yields a sampling error of $\pm 2\%$. This means that the survey result of 61% of Americans who have eaten oatmeal for breakfast in the past year could actually be as high as 63% but also as low as 59% - in which case the contestant would have correctly answered within the program's acceptable range.

This example relates only to the issue of the sample size. Other concerns like the representativeness of the sample and the data collection method could affect the survey result as well, potentially strengthening the argument that the contestant's answer fell within the program's range of allowable error. This can make one wonder how long it might be before a legal challenge arises from a disgruntled contestant who claims that his or her answer was close enough to win the jackpot.

The underlying question to all of this is how much science is behind the television program's polling. With the network failing to disclose information about the survey methodology being used, it is not possible to assess the survey data's validity.

A cardinal rule of survey reporting is that a full disclosure of the study's methodology must accompany all findings. This offers safeguards to the user of the data while providing credibility to the research organization responsible for the survey. With the monetary stakes as high as they are for potential contestant winnings on *Power of 10*, CBS should probably be more forthcoming regarding the manner in which it derives its survey results - even though the program is just a game. 

From the Field...

A summary of recent survey findings from across the country.



With the new school year now back in full swing, less than one-half of U.S. adults express satisfaction in the quality of education young people are receiving today. Only 7% are completely satisfied and 39% are somewhat satisfied with the educational quality provided to kindergartners through twelfth graders. Thirty-five percent are somewhat dissatisfied and 16% are completely dissatisfied.

Source: Gallup Poll



When it comes to satisfaction with the lives we lead, Americans are much more optimistic. Ninety-four percent say they are satisfied with their life, with 56% indicating they are very satisfied and 38% saying they are somewhat satisfied. Seven in ten respondents 62 years of age and older reveal they are very satisfied with their life.

Source: Harris Interactive



A recent study shows that many Americans subscribe to common myths about health risks. For example, 30% of the survey respondents believe the use of cell phones increases their risk of developing brain tumors even though no peer-reviewed studies support this claim. And two-thirds of the respondents think the risk of dying from cancer in the U.S. is increasing although the death rate has been dropping about 1% per year since 1991.

Source: American Cancer Society



Full-time students at four-year colleges in the U.S. say they spend 19.2 hours online each week, one hour more than in 2006.

Source: Youth Trends